A shift to alternative forms of energy and away from conventional carbon-intensive fuels like coal forms the centerpiece of virtually all carbon-reducing strategies. 28 states have enacted mandatory renewable portfolio standards (RPS) (requiring their utilities to procure a set percentage of energy from alternative/renewable sources); the President's stimulus package includes block grant money and tax credits to promote alternative energy; and green jobs are central to his economic and energy strategy.

Sounds non-controversial, right? But the shift to renewable sources is already raising the hackles of some environmental groups and promises to raise complex values clashes for which we have few answers. At least as problematic, these environmental clashes may lead to significant delays in getting renewable sites up and running and in building transmission lines to bring renewable energy to customer bases. Long-hallowed environmental statutes like the Endangered Species Act and the National Environmental Policy Act (and state counterparts) may become the enemy of efforts to move away from conventional energy sources.

Take solar plants, for example. California is committed to a 20 percent RPS by 2010 and 33 percent by 2020. Solar energy is key to meeting this standard and several of the state's utilities have entered into contracts with Bright Source Energy for large scale solar power. Bright Source proposes building seven solar plants in the southern California desert. So far so good. But these plants potentially create at least two major environmental problems. They require large swaths of land that are home to fragile habitat for endangered species like the desert tortoise. And they use huge amounts of water to create steam and cool turbines. California's water problems are legendary and the transmission , treatment and disposal of water through the state takes almost *twenty percent* of the state's overall electricity usage. Environmental groups are already at odds about how to balance the need for quick deployment of solar resources against the habitat problems that will arise, with some opposed to large scale solar and others arguing that climate change is too urgent a problem to let more localized environmental problems get in the way of renewable development.

Solar is not the only alternative energy source that raises environmental concerns. Geothermal plants emit trace elements of heavy metals and also require swaths of land in potentially fragile areas. Wind energy raise aesthetic concerns as well as problems with bird and bat kills and problems with habitat. All of these sources require transmission to population centers and frequently can be developed only in areas far from those centers. The siting of transmission lines is already proving to be highly contentious.

How do we resolve these very real values clashes between immediate and local

environmental problems versus the need to move quickly to reduce carbon emissions? I have no easy answers. Should the Endangered Species Act provide a streamlined process that ultimately allows species to be "taken" (the legal term for harming, harrassing and killing the species) in the name of cutting carbon emissions? Should local control over the siting of transmission lines be eliminated? Should the approval process for alternative energy sources be streamlined so that one agency coordinates all environmental approvals? Or should we allow our existing statutory regime — one that requires federal and state agencies to evalute environmental concerns; protects endangered species and habitat from harm; and gives citizens ample opportunity to sue for their enforcement — to govern as we do with any other large scale development? At a minimum we need a serious conversation about these questions, one that recongizes the very real tradeoffs we must make.